

TB PMG 30

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

INVESTIGATION OF ASSAULTS, HOMICIDES, AND SUICIDES



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* This bulletin supersedes TB PMG 30, 3 March 1963.

SECTION I

GENERAL

1. **Purpose and Scope.** This bulletin is a guide for the investigation of assaults, homicides and suicides. It contains information on the classes of assaults, applicable legal considerations, and investigative techniques. It also describes legal considerations, responsibilities of various staff officers concerned, and techniques applicable to the investigation of homicides and suicides. All photographs in this bulletin were approved for publication by the Director, Armed Forces Institute of Pathology, Washington, D. C., 20305.

2. **Comment.** Users of this bulletin are encouraged to submit recommended changes or comments to improve the bulletin. Comments should be keyed to the specific page, paragraph, and line of the text in which the change is recommended. A reason should be provided for each comment to insure understanding and complete evaluation. Comments should be forwarded direct to The Provost Marshal General, ATTN: PMGS-C, Department of the Army, Washington, D. C., 20315.

SECTION II

ASSAULTS

3. **General.** Four types of assaults are considered in the Forms for Specifications as set forth in appendix 6c of the Manual for Courts-Martial (MCM), and the table of Lesser Included Offenses set forth in appendix 12, MCM. Article 128 of the Uniform Code of Military Justice (UCMJ) indicates the basic assaults. For purposes of clarity these assaults will be named and considered in a slightly different manner from that presented in the MCM.

a. **Simple Assault.** A simple assault is an attempt or offer with unlawful violence or force to do bodily harm to another. Picking up a stone without any attempt or offer to throw it is not an assault. The offer must contain some overt act whereby another person is put in fear of bodily harm. A simple assault is seldom investigated in the military service. Such investigation as may occur normally categorizes these assaults under Article 134.

b. **Assault and Battery.** A battery is a consummation of the threat to do bodily harm. It is a more serious offense than a simple assault since actual harm is inflicted on the person menaced.

c. **Aggravated Assault.** There are two kinds of aggravated assault. The first is an assault with a dangerous weapon or other means of force likely to produce death or grievous bodily harm: it is not necessary that death or grievous bodily harm be inflicted. Almost any instrument or object may be considered as capable of producing the injury contemplated in this act. Courts have held that such items as a bottle, a beer glass, a rock, and a piece of pipe, as well as other objects may be used in a manner likely to inflict death or grievous bodily harm. On the other hand, it has been held that an unloaded pistol, when presented as a firearm and not as a bludgeon, is not a dangerous weapon or a means of force likely to produce

grievous bodily harm, and this would be so whether the assailant knew it was unloaded or not. The second type of aggravated assault is that in which grievous bodily harm is intentionally inflicted. Grievous bodily harm does not include minor injuries, such as a black eye or a bloody nose, but does include fractured or dislocated bones, deep cuts, torn members of the body, serious damage to internal organs and other serious bodily injuries.

d. **Assaults With Intent to Commit Certain Crimes.** As stated in Article 134, UCMJ, these assaults are not usually investigated separately, but as part of the investigative process need in the investigation of the crime intended. An assault with intent to commit an offense is not necessarily the equivalent of an attempt to commit the intended offense.

4. **Investigative Techniques.** The following techniques and procedures may be used as guides in the investigation of an assault:

a. **Establish That an Assault Was Committed.** Upon receipt of information alleging that an assault occurred, first establish if the offense did or probably did occur. This may be done by questioning the victim, an attending physician, and any immediately available witnesses.

b. **Question the Victim.** In many instances, it will be advisable to question the victim at least twice.

- (1) During the initial questioning, in addition to establishing the probability that an offense was committed, attempt to determine the type of weapon used, if any, and whether the victim knows or suspects the identity of the assailant and his motive. The initial questioning should not be lengthy, particularly if the victim is seriously

injured or if the questioning delays the search of the crime scene. If the medical officer believes that the victim may die from his injuries, every effort should be made to obtain maximum information from him as soon as possible. However, this should be done only with the approval of appropriate medical authorities.

- (2) Subsequent interrogation should be conducted after the search of the crime scene which may provide investigative leads and the basis for further questioning.

- (a) Most assaults are prompted by a motive. Attempt to determine a motive for the threat or violence. The discovery of a person with a motive and the opportunity to commit the assault will afford a lead to the possible identity of the assailant.

- (b) Attempt to elaborate on the information obtained during prior questioning. The victim may have a reason for not telling the truth. For instance, a man who had been assaulted by the husband of a woman with whom he has become involved may deny any knowledge of why he had been assaulted or the identity of his assailant.

- (c) A victim may not know why he was assaulted. In seeking investigative leads consider the possibility that the assailant made a mistake in identity or that the victim without intent or knowledge interrupted some unlawful act of the assailant.

- c. *Search the Scene.* Search the scene for evidence as soon after the incident as feasible. The search may be partially or completely made while the victim is still on the scene. Give careful attention to objects, footprints, fingerprints, scuff marks, and other traces that indicate activity or presence of persons at the scene. A commonplace item, such as a button or piece of thread, found at the scene may be of evidentiary value and may provide a lead to the identity of the assailant. Seek physical objects that may have served as a weapon. If the

victim was not present during the search, it may be advisable to visit the scene with him after the initial search has been made. This may provide a better understanding of how the assault occurred and may lead to the discovery of additional evidence. Techniques discussed in TB PMG 27, *Crime Scene Processing*, are applicable for searching the scene. See paragraph 162, MCM, U.S., 1961, for a discussion of legal and illegal searches.

- d. *Question Witnesses.* Seek to locate and question witnesses to the assault. While there is no legal requirement to caution witnesses of their rights under Article 31, UCMJ, or the 5th Amendment to the United States Constitution, the borderline to which an unsuspected witness approaches that of a suspect is so undefined as to make it advisable to warn witnesses of their rights. Questioning may reveal evidence of a threat made against the victim or an expression of intent to commit the assault. Witnesses may be reluctant to answer direct questions for fear that they may have to appear in court, because the assailant is a friend or acquaintance, or from fear of the assailant himself. Develop all information concerning any unusual activity in the area. Thoroughly question persons living, working, or otherwise in the vicinity of the scene concerning the identity of persons seen or believed to have been in the area.

- e. *Questioning the Suspects.*

- (1) Prior to any questioning, any suspect or accused must be given a proper warning of his rights against self-incrimination. The simple act of reading him Article 31, UCMJ, or the Fifth Amendment of the Constitution if a person is not subject to the UCMJ, will not be sufficient to meet legal requirements of a proper warning. The suspect or accused must be told the following in terms he can understand:

- (a) The nature of any offense of which he is suspected or accused.
 - (b) That he has the right to remain silent, that is, to say nothing at all.
 - (c) That anything he does say can be used against him in court.
 - (d) That he may consult with counsel prior to any questioning and may

have counsel present with him during the questioning. Counsel may be civilian legal counsel retained by him, or counsel appointed for him at his request.

In addition to the rights mentioned above, if at any time before or during the questioning the suspect or accused indicates that he wishes to remain silent, the questioning must cease. If at any stage before or during the questioning he indicates that he wants counsel, the questioning must cease until he has had the opportunity to consult with counsel. As the law with respect to self-incrimination is subject to change, investigators are cautioned to insure that the warning they give is in accordance with current legal requirements.

- (2) Questioning of the suspect should be based on information developed during the investigation. Such information may relate as to whether—
 - (a) He had a motive and an opportunity to commit the assault.
 - (b) He was in the vicinity of the scene.
 - (c) The suspect possesses or had access to a weapon used in the assault.
 - (d) Physical evidence found at the scene can be related to the suspect.
 - (e) Based on the suspect's past record, he is the type of person that would commit an assault.

f. Background Information.

- (1) In those instances in which extensive

investigative effort fails to identify the assailant, check the victim's background, associates, and activities. Check police and personnel records to determine if he had been involved in any previous incidents. Question relatives, members of his military unit, neighbors, and associates.

- (2) Information thus may be developed that indicates that the victim has a motive for withholding information. This situation can be used as a basis for further questioning of the victim, suspect, and witnesses.
- (3) In some instances, it may be advisable to confer with the medical officer treating the victim, after the initial facts are assembled, to determine if the injuries could have occurred as indicated by the circumstances, the estimated age of the injuries, and any related information which might depend upon the ability of the victim to give an accurate account of the incident. The medical officer responsible for the care of the patient may be able to indicate the type of weapon that could have caused the injury, the approximate time of occurrence, and the extent of incapacity of the victim because of alcohol, drugs, or physical disabilities which might affect the victim's ability to recall the circumstances.

SECTION III

HOMICIDES AND SUICIDES

5. **General.** a. The determination of whether a death is the result of homicide or suicide may well be one of the most difficult problems faced by an investigator. It will require all of his skill, training, and experience, in addition to the cooperation of the Medical Officer and others.

b. Homicide is the killing of one human being by another human being. The killing of a human being is unlawful when done without justification or excuse.

c. Suicide is the taking of one's own life. When a person dies who is subject to or within an area of military jurisdiction, an investigation is conducted to determine if a criminal act was associated with the cause of death. An exception to the above occurs when a person dies from natural causes and a medical officer is in attendance.

6. **Legal Considerations.** Depending on the facts of the incident, the unlawful killing of a person by another may constitute murder or a lesser offense. Discussions of the offenses of murder and manslaughter are set forth in paragraphs 197 and 198, MCM, U.S. 1951, respectively. In addition, negligent homicide may be charged as a violation of Article 184, Uniform Code of Military Justice. This offense is not discussed in detail in the MCM. The elements of this offense are—

- (1) That the victim is dead.
- (2) That his death was unlawfully caused by the act or omission of the accused, and
- (3) That such act or omission constituted negligence.

Investigators should be thoroughly familiar with the elements of these offenses and the distinguishing factors of each.

7. **Responsibilities.** Several agencies have definite responsibilities to the command for investigating deaths occurring under suspicious circumstances. When there is an apparent conflict of interest, report this conflict to your superior so that it may be resolved through official channels.

a. The medical officer is responsible for determining the cause of death. A medicolegal autopsy is authorized or ordered by proper military or civil authorities in cases of accidental, suicidal, homicidal, unattended, or unexpected death, not only for the purpose of determining the cause and manner of death, but also to protect society and to insure administration of justice. In some cases, the autopsy may not reveal the cause of death, and microscopic, toxicologic and other special laboratory studies are required. In a small percentage of cases, the cause of death is undetermined. The investigator is encouraged to establish and maintain liaison with the medical officer, or pathologist, who performs the autopsy. The investigator should inform the pathologist of the circumstances of death and preliminary investigative findings prior to the autopsy. Knowledge of the circumstances of death enables the pathologist not only to select appropriate procedures for determining the cause of death, but also to offer an opinion concerning the manner of death. The medical officer is also responsible for completion of certain military records and official certificates of death.

b. The provost marshal is responsible for obtaining all facts pertaining to deaths occurring under suspicious circumstances to determine if the deaths were due to homicide, accident, or suicide; and, if homicidal or accidental, to determine the person or persons responsible.

c. The line of duty investigating officer is responsible for determining the duty status and personal conduct of the deceased. He has no jurisdiction over the progress of a criminal investigation.

d. The safety officer is responsible for determining the safety or lack of safety factors in an accident. His interest in accidents is from the standpoint of safety only.

e. The intelligence officer is responsible for determining security considerations. His primary concern is to insure that there has not been, and will not be, a compromise of any classified material. This is particularly important in the case of death by suicide. Close military police criminal investigation—intelligence liaison is absolutely essential, and is directed by Army Regulation 196-10. The receipt of a report of death due to homicide, accident, or suicide must be immediately relayed to the nearest intelligence agency. If the victim had access to classified material, the investigator should request the intelligence officer to determine if any of this material is missing. The criminal investigator must be conscious of his responsibilities as the primary investigator and assure that intelligence agency officials are kept fully advised of the progress of the case, until it has been clearly established that no further security interest exists.

f. In some instances, the installation commander or a higher authority may convene a board of inquiry to determine the facts associated with a death. Such a board has broad powers and may inquire into all phases of the incident.

8. Coordination of Investigations. To promote the effective coordination of investigations involving deaths, close liaison should be insured within commands between investigative, medical, and related forensic personnel.

a. Periodic meetings at the local level to discuss those problems which occur during the conduct of homicide investigations, or problems which are anticipated, provide an invaluable medium for the exchange of ideas and the establishment of a standing operating procedure. These personnel may be referred to as a Forensic Council. Matters of mutual interest include, but are not limited to—

- (1) Jurisdiction.
- (2) Investigative responsibilities.
- (3) Local agreements with civilian authorities.
- (4) Status of forces agreements.
- (5) Rules and procedures to be followed by military police, CID, hospital emergency room personnel, and pathologists.
- (6) Formulation of a standing operating procedure.

b. A Forensic Council is an excellent method for orienting new personnel, and it provides a means for informing each group of their respective roles in the investigation of violent, suspicious, or unexpected deaths. Although the concept of cooperation between the investigator, legal officer, pathologist, military commander, and civil authorities is not new, an organized approach will insure mutual understanding and better application of law and science so that justice may be served.

9. Investigative Techniques at the Scene. a. Make every reasonable effort to arrive at the scene of a reported homicide, fatal accident, or suicide before the scene has been disturbed. At a scene from which the victim has not been removed, the following procedures, in addition to those presented in TB PMG 27 and in appendices II and III of this bulletin, should be followed:

- (1) Immediately upon arrival examine the victim for indications of life, if a medical officer is not present, and if appropriate, render first aid.
- (2) Notify, or arrange for the notification of, the appropriate medical authority.
- (3) Attempt to obtain a statement if the victim appears to be in critical condition or is dying. Make note of any circumstances which might permit the statement to qualify for admissibility in evidence as a dying declaration (MCM 1951, para 142a).
- (4) Determine the identity of the person who discovered the incident or scene and the identity of the person who made the first official report.
- (5) The scene and the victim should be photographed. (See TB PMG-9, In-

vestigative Photography.) Later, after removal of the victim, it may be desirable to reconstruct the scene and its action to demonstrate the significance of relative positions of pertinent evidence. It may be desirable for study purposes to record the results with still photographs or motion pictures. The person who represents the victim should be approximately the same height and weight as the victim. This reconstruction may aid in determining how or whether force was applied, whether injury was inflicted in a certain manner or from a certain direction, or other factors as to how the incident occurred.

b. Note and record the following post mortem conditions and bring them to the attention of the medical officer, or pathologist, who performs the autopsy, for interpretation:

- (1) *Livor mortis.* Livor mortis is the reddish-purple discoloration which occurs after death as the result of settling of the blood by gravity toward the lowest portion of the body. Livor mortis is usually noted within $\frac{1}{2}$ to 2 hours after death, and the color of the livor mortis may provide some indication of the cause of death. For example, a bright cherry red color is suggestive of carbon monoxide poisoning. For several hours, the distribution of the livor mortis changes if the body is moved to other positions. Pressure against the skin in areas where it is noted results in blanching. When the pressure is removed, the reddish-purple color is noted again. After 4 to 6 hours, the livor mortis remains fixed in position and movement of the body will not result in a change in the distribution of livor mortis.
- (2) *Contusions.* A contusion, or bruise, is a localized hemorrhage within the body or skin, as the result of injury by blunt impact. A recent bruise is actually dark red, reddish-purple, or blue, and the color of the bruise is uniform. After a day or so, a yellow-

ish margin is noted, and later the bruise changes in color from green to brown, to brownish black. Although the investigator should record the color of bruises, the estimation of age is difficult and opinion of a medical officer should be obtained.

- (3) *Bleeding.* The presence and location of blood are significant. When injuries are noted, particularly about the head, and there is no evidence of blood or bleeding, it is possible that the injuries were inflicted after death or that the victim was killed at some other location. At death, when the heart stops beating, blood pressure drops to zero but blood may drain from a wound after death, due to the force of gravity. A blood sample of a victim should be taken to determine his blood type. This may be of evidentiary value in an investigation.
- (4) *Rigor mortis.* Rigor mortis is the stiffening of the body after death caused by the contraction of muscles due to chemical changes within the muscle tissue. Although the time of onset of rigor mortis is variable and dependent upon several conditions, it usually starts shortly after death in the muscles of the face, neck and lower jaw. It progresses downward to the muscles of the trunk and extremities. Development of rigor mortis is usually complete 6 to 18 hours after death. It disappears in the same manner between 24 to 48 hours after death.
- (5) *Cadaveric spasm.* Cadaveric spasm, sometimes called "death grip," takes place instantly at death and does not relax; however, cadaveric spasm does not occur in all deaths. It has no relation to rigor mortis. The most significant deduction that can be made is that if a weapon is found tightly gripped in the hand of a deceased person, the deceased person died with the weapon in his hand. It is impossible to simulate cadaveric spasm by placing something in a person's hand after his death.

c. It is not unusual to investigate an alleged homicide in which the body has been removed from the scene and the scene returned to its normal use or activity. Furthermore, the body may have been interred. In an investigation of this nature, in addition to reconstructing the scene, closely examine records of any previous investigations of the death and seek to establish investigative leads that were not explored. It may be necessary to have the body exhumed for an examination by medical personnel.

10. **Shooting.** a. An investigator should use terminology in describing missile wounds that have a mutual meaning between investigators and pathologists. A wound might be any one or a combination of the following:

- (1) *Contusing*—causing a bruise,
- (2) *Glancing*—striking the body without causing any visible injury,
- (3) *Penetrating*—entering into the body with no exit wound,

- (4) *Perforating*—a shot passing completely through with both an entrance and exit wound,
- (5) *Superficial perforating*—a lacerating type of wound. This type of wound is often mistaken for a cutting wound made with a knife or similar instrument,
- (6) *Pseudoperforating*—a wound in which the bullet remains in the body with an exit wound caused by a bone fragment,
- (7) *Secondary missiles*—environmental or body components struck by a bullet and becoming missiles themselves. Equipment, wood from bunkers or trees, stones, and bone fragments, may become secondary missiles. X-ray equipment is often used to locate a bullet in a body when no exit wound is discernible. Stab wounds have been mistaken for bullet wounds.

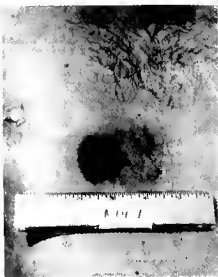


Figure 1. Perforating and penetrating gunshot wounds. Suicide. After he had killed his wife, the husband used the same weapon to commit suicide. The bullet perforated the chest and penetrated the left arm where it was recovered beneath his tattoo. The contact wound of the left chest is contrasted with the secondary wound of entrance in the left arm. (AFIP Negative No. 68-2811.)

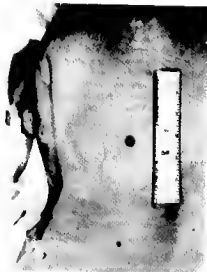


Figure 2. Perforation gunshot wound, Homicide. This woman, shot in the back with a caliber .45 automatic pistol by her husband, has characteristic wounds of entrance and exit, resulting from firing of the weapon at a range some distance away from the victim (AFIP, Negative No. 66-3454.)

5. A determination must be made as to which of the wounds is the entry and which the exit. An investigator or pathologist who has had extensive experience with bullet wounds should view the body to be sure that a correct determination has been made. Usually the basis is the appearance of the wound itself. Small wounds are indicative of entry wounds while exit wounds are usually larger with a greater amount of tissue damage. The angle of the bullet's flight may be determined from the angle indicated by a probe placed into the wound. If external evidence is available, such as a bullet in a wall, or in a tree, the position that the victim was assuming at the time he was shot can be determined accurately. Lacking this external evidence, judgments must be carefully weighed to preclude errors caused by the victim stooping over or assuming some attitude other than standing upright. In very rare occasions, the sequence in which bullets struck



Figure 3. Diagram of wounds by bullets at distant and close ranges. This drawing shows the path of the missile through the skin and the differences in the appearance of entrance wounds. Note the imprint of the missile, charring of the skin, and powder residues in the contact wound on the right.

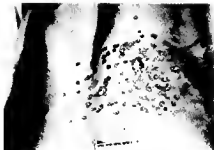


Figure 4. Shotgun wound of back. Homicide. The pattern of the shot depends upon the length and choke of the barrel. The weapon was a sawed-off shotgun and ballistic tests with the weapon could determine the range of fire. (Office of the Chief Medical Examiner, State of Maryland.)



Figure 5. Shotgun wound of head. Homicide. It has been alleged that this man committed suicide with a 12-gauge shotgun. Ballistic tests with the weapon, however, revealed a pattern which indicated the range of fire as 12 feet. (Office of the Chief Medical Examiner, State of Maryland.)

the body can be determined by a reconstruction of the shooting.

c. If the bullet passed through the victim's clothes, the investigator should obtain the clothes and forward them to a laboratory for examination. If possible, the investigator should remove or assist in removing them. Clothing should be carefully removed in the normal manner, with each item placed in separate plastic bags and identified. If the garments are

damp, they should be dried in air by hanging in a dry room to preserve the evidence. Clothing may be cut from the body only if absolutely necessary. The medical officer who performs the autopsy should have the opportunity to examine and describe the clothing in order to correlate this evidence with injuries to the body. Do not cut through any hole in a garment that might have a bearing on the cause of death. The laboratory may be able to determine from the residue or burns on the clothing the approximate distance from which the bullet was fired and, in some instances, the sequence in which the bullets were fired.

d. If powder residue or burns are found on the victim's hands, they may assist the investigator in determining whether the death was homicide or suicide. The dermal nitrate test has been discredited, for the method is not specific and false positive results may occur. Consideration should be given to the use of neutron activation analysis, for this test is now available to the investigator.

11. **Stabbing.** A stab is a penetrating wound inflicted with a weapon, such as a knife or stiletto. A wound inflicted with a stiletto or ice pick may have the general appearance of a bullet wound. In the event an examination fails to reveal a definite indication of stabbing, consider the possibility that the wound was made in some other manner. X-rays of the body may be helpful in locating an unsuspected bullet or fragments of a weapon, such as a knife or stiletto, which may be retained within the body.

12. **Cutting.** A cut is an incised wound inflicted with a knife, razor, piece of glass, or other sharp-edged instrument. Where multiple cuts are involved, those on the palmar surface of the hands and the outer surfaces of the forearms of the victim, are usually defensive cuts; frequently they are indicative of a homicidal attack.

13. **Chopping.** A chopping wound is a combination cut and laceration. The wound is usually inflicted with a heavy instrument, such as a cleaver, machete, hatchet, or ax. The medical examiner may be of assistance in determining the type of instrument that was used, by determining the depth, width, and general

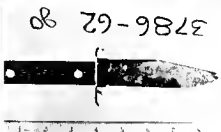


Figure 6. Stab wounds of chest. Homicide. The decomposed body of an Army enlisted man, identified by fingerprints, was discovered partially buried in a shallow grave on a military reservation. Examination of the body disclosed a stab wound of the left chest with perforation of the heart. A hunting knife used for the homicide was found partially buried in sand about 175 feet from the body. Examination of the knife revealed stains of human blood but the blood type could not be determined. (AFIP, Negative Nos. 63-4612, 63-4532.)

appearance of the wound and amount of tissue damage.

14. **Strangulation.** Homicidal strangulations may be committed in several ways. Judo or karate blows to the throat may cause damage to the larynx followed by suffocation. In deaths of this nature the pathologist can usually find signs of this damage by an examination of the larynx and associated anatomical structures. Strangulations by ligature are also fairly common. The ligature is usually made from something handy on the scene. Ladies stockings, pajamas, neckties, belts, and other similar types of materials have been used. The investigator should pay particular attention to the manner in which the ligature is fastened. Strangulations by garrote are not too frequent-

ly encountered but may be a method used in homicidal strangulation. The garrote may be made with rope or similar material found at the scene or may be made of specially prepared materials. The garrote may or may not be found remaining around the subject's neck. A minute examination of the marks left on the skin may reveal the type of garrote used. In cases of strangulation by choking with the hands, an investigator is often able to determine whether the victim was attacked from the front or back by an examination of the bruises left on the neck by the fingers. Fingernail marks are quite frequently found on the neck of the victim. In cases of manual strangulation, fingernail scrapings of the victim should always be taken, as frequently the attacker is scratched



Figure 7. Incised wounds of wrist. Suicide. Death resulted from loss of blood from multiple lacerated wounds of the wrists and arms due to a razor blade. Note the smooth gaping margins of the larger incisions and the smaller hesitation cuts. (AFIP)

during the attack and such scrapings may provide valuable evidentiary material. A fracture of the hyoid bone, a U shaped bone at the base

of the tongue, is nearly always found in cases of manual strangulation. A person cannot strangle himself since at the time of unconsciousness the hands will relax and breathing will resume.

15. Hanging. a. Hanging consists of strangulation by means of a rope, cord, or similar instrument working against the suspended weight of the body to cut off the supply of air to the lungs. A person does not have to be completely suspended to hang. Another type of hanging may be accomplished by tying the rope to an object, such as a barn rafter or a tree limb, and jumping or being pushed from the suspended object. This method may break the neck of the victim if the falling distance is more than just a few feet. An examination should also be made, at the scene, of the object over which the rope, or other material is laid, such as a rafter or beam, for marks indicating the direction of travel of the suspending material. It may be necessary to remove the object for examination at the laboratory.



Figure 8. Incised wound of right shoulder. Homicide. The lacerated wound of the shoulder and a stab wound of the abdomen were incurred during an altercation. Examination of the clothing and wounds in cases of this type may provide an estimate of the size and type of weapon. (AFIP, Negative No. 65-1841.)



Figure 9. Chop wounds of hand inflicted by machete. Homicide. These deep incised wounds are characteristic of a heavy, sharp-edged instrument, and represent an attempt by the victim to defend himself. (AFIP, Negative No. 66-2715.)

b. In investigating a suspected homicide by hanging, examine the scene for signs of a struggle and the hands of the victim for defensive marks or rope burns.

c. In taking down the victim, never untie the knots. Cut the hanging instrument about halfway between the victim and the point of suspension. Cut it from around his neck on the side opposite the knot. The type knot may provide a lead for investigation.

d. The hanging instrument should be examined in a laboratory to determine if it had been pulled up against the weight of the body.

e. A careful examination of the groove around the neck should be made. The position of the groove in relationship to the location of the knot should also receive careful attention. The mark of the hanging instrument should be in consonance with the location of the knot. For example, if the knot is in front of the face

the deepest part of the groove should be on the nape of the neck. Any discrepancy in these correlations would be indicative of homicide.

f. If the victim is nude, if he is suspended before a mirror, if the suspension is of an unusual nature, or if any combination of these circumstances exists, an accidental hanging associated with an abnormal sexual motive may be suspected.

16. Poisoning. a. Death may result when the body ingests food, drugs, or chemicals that destroy the balance of metabolism, paralyze the central nervous system, or destroy or injure the digestive tract or system. Homicidal poisonings are rare in the military service. Most of the deaths by poison are either accidental or suicidal.

b. When a death is encountered under circumstances indicative of poisoning, obtain any



Figure 10. Manual strangulation. Homicide. Note the abrasions of the skin of the neck compatible with fingernail scratches. Fracture of the hyoid bone and hemorrhage in the soft tissues of the neck were found during the postmortem examination. (AFIP, Negative No. 64-1064.)



Figure 11. Strangulation by hanging. Suicide. Death by asphyxia may occur without complete suspension of the body. Knowledge of the circumstances of death, investigation at the scene and correlation with the post mortem findings are required to determine the manner of death. (AFIP, Negative No. 66-6656.)



Figure 12. Strangulation by hanging. Note the furrow of the skin extending upward along the left side of the neck. (AFIP, Negative No. 66-3498.)

excretion, vomitus or feces, and seal it in a suitable container to prevent the loss of volatile poisons, make a note of any odors, and impound, for laboratory analysis, any leftover foods and beverages. Foods that are sealed, or not obviously touched, such as fresh fruits, need not be considered. The contents of the medicine cabinet should be carefully checked and all bottles or other containers having medicinal contents should be recovered for analysis. The



Figure 13. Strangulation by hanging. Accidental. The accidental strangulation by hanging was associated with an autoneptic set. Careful investigation at the scene of death and evaluation of the circumstances of death are required in these cases. Note the peculiar suspension by the neck and feet and the bondage of the hands behind the back. The victims of this type death are frequently scantily clothed or wearing articles of female clothing.

investigator should keep in mind that such containers might be mislabeled, or their contents changed, and should not be misled because the container appears to indicate a nontoxic substance. Condiments should also be analyzed for the presence of poisons as these substances camouflage poisons quite well. A toxicological examination should be requested in all suspected poison cases. All information concerning the circumstances of the suspected poisoning should be provided to the laboratory performing the toxicologic analysis. Search for an unknown substance may require 60 or more man hours of laboratory time, and the investigator should provide the laboratory with as much information as possible concerning suspected toxic substances. Unless specific instructions are provided by the laboratory, the investigator should

ot add a preservative to any of the specimens obtained for laboratory examination. When a delay is anticipated, freezing of the specimens is permissible. The crime laboratory, or laboratory performing the toxicologic analysis, should be informed of suspected poisons, drugs, and containers found at the scene. Investigators sometimes fail to realize the problems encountered in the detection of an unknown poison. Since there are a great variety of poisons which have a variable distribution within the body, the poisons may be altered by or eliminated from the body if the victim survives for a period of time. Knowledge of the circumstances and suspected poisons will enable the toxicologist to select appropriate methods for analysis.

c. If death resulted from a poisonous gas, such as carbon monoxide or illuminating gas, a blood alcohol determination should be requested. A high degree of alcohol content may indicate that the person was too intoxicated to have carried out the necessary preparations himself.

17. **Falling.** Falls are usually accidental. A person may be pushed or thrown from a height; however, such incidents are rare. It is usually helpful when investigating an incident involving a fall to consider the blood alcohol content of the victim. The height from which the victim fell, and the distance from the base of the object to the point of impact, should be carefully determined. An average person falling for a height of 100 feet will normally land approximately 14 feet from the base. If the body is found at a proportionally greater distance than this, it would be a strong indication that the body was thrown. The investigator should not overlook the fact that a body might be found at the very base of the object under two circumstances; one in which the victim may have been rendered unconscious and rolled over the edge. An examination of the point of departure of the body should receive adequate attention.

18. **Burning.** Except in cases of arson, most burnings are accidental. An autopsy will determine if the victim was alive at the time of the burning, by the presence of inhaled smoke particles, or carbon monoxide in the blood. The most difficult problems in the investigation of a death by burning are establishing the relationship between the death and the cause of the fire,

and the identification of the victim. Exhaust every reasonable possibility before an exact identification of a burned body is made when the fingerprints have been destroyed.



Figure 14. Post mortem burn of body. Homicide. The charred body of a man found in a burned house revealed a missile wound of the chest. (Office of the Chief Medical Examiner, State of Maryland.)



Figure 15. Post mortem burn of body. Homicide. Examination of the charred body disclosed a perforating missile wound of the heart. The man was shot during an altercation and the fire resulted from overturning of a kerosene lamp. (Office of the Chief Medical Examiner, State of Maryland.)

19. **Drowning.** a. Drownings occur under the following conditions:

- (1) A violent spasm of the victim's neck, throat, and chest muscles prevents breathing and death results from asphyxia.
- (2) Water in the victim's throat causes

choking. Breathing attempts cause the mucus and water to form a foamy, frothy, viscid secretion that blocks the trachea resulting in asphyxia.

- (3) Seldom is water found in the lungs of a drowning victim except in very small quantities.

b. When a body is recovered from water, an autopsy will usually reveal if the person was alive when he entered the water. Chemical examination of the blood obtained from the heart by the medical officer performing the autopsy may reveal whether the person drowned in salt or fresh water. The test consists of taking blood specimens from the right and left ventricles of the heart. If a person drowns in fresh water, the chloride content of the blood

taken from the left ventricle will be less than that of the blood from the right ventricle. The chloride content will be higher instead of lower if the drowning occurred in salt water, however, the determination of the magnesium content of the blood is recommended when drowning in salt water is suspected.

20. Beating. a. Death from a beating is usually unpremeditated. The significant indications of a beating are extensive bruises. An autopsy will usually show ruptured vital organs and cranial hemorrhages.

b. When a weapon is used it usually leaves distinct impressions on the body. In such an instance, attempt to find the impressions to determine type of weapon used. It may be valuable in associating a suspect with the offense.

c. When a person is kicked or stomped, impressions and distinctive marks caused by the shoe are frequently found on the clothing or



Figure 16. Contusions, abrasions and lacerations. The swelling of the lip and left eyelid, and discoloration of the skin over the left eye and bridge of the nose, are characteristic features of contusions. Note the abrasions of the nose and irregular lacerations in the skin of the face. These injuries are commonly caused by blunt impact.



Figure 17. Blunt impact injuries of head. Homicide. This young woman died as a result of head injuries and aspiration of blood, allegedly incurred in an automobile accident. The on-the-scene investigation and post mortem examination, however, were not compatible with this manner of death. An iron pipe inflicted these injuries and a stone was wedged under the accelerator of the automobile to simulate a motor vehicle accident. (AFIP, Negative No. 62-4067.)

on the body. These marks should be photographed, and if on clothing, the clothing should be sent to the laboratory for examination. Suspect's shoes or boots should also be sent to the laboratory for possible comparison with the marks.

d. When a person is beaten to death, the body may be moved to an area to simulate a vehicle accident or a fleeing the scene accident. The body may be run over with a vehicle. An autopsy may show that the injuries are not consistent with motor vehicle injuries and a search of the area will usually reveal no point of impact. A diligent search of the area may reveal evidence inconsistent with any accident theory.

21. **Sex Murder.** A sex murder may be committed by any means; however, the most common means are strangulation and stabbing. Do not be misled in the death of a woman or child by the fact that no sexual intercourse took place. A woman or child who has been strangled or stabbed with numerous cuttings and whose sex organs have been exposed or mutilated is usually the victim of a type of sex murder. In such situations, the opinions of a psychiatrist or other medical officer should be obtained.

22. **Suicide.** The techniques of investigating suicide and homicide are basically the same. In both instances it is very important that motive be established (para 24). Opportunity is a factor to be considered where there is any indication that an apparent or alleged suicide may be a homicide. Consider the following factors when inquiring into a death that appears or is alleged to be a suicide:

a. A woman seldom commits suicide in the nude.

b. A suicide victim usually opens his clothing when attacking parts of his body.

c. In a suicide, a person seldom, if ever, shoots himself in the eye.

d. Men are more prone to use weapons or violent means; women are more prone to use poisons.

e. Persons who commit suicide by cuttings and stabbings usually leave hesitation marks. These marks are slight cuts or scratches which the person makes with the suicide instrument



Figure 18. Suffocation with a plastic bag. Suicide. The use of a plastic bag is not an uncommon method for suicide. (AFIP, Negative No. 65-4295.)

before he has the resolve to make the fatal cut or stab.

f. Whether the suicide victim is right or left handed (of particular significance in shootings and stabbings).

g. Seldom will more than one deep wound be inflicted when an instrument, such as a cleaver, machete, hatchet, ax, knife, or ice pick, is used to commit suicide.

h. Does the investigation reveal—

- (1) Previous suicidal attempts or tendencies?
- (2) Financial difficulties?
- (3) Failing health?
- (4) Unwise or indiscreet emotional involvement with the opposite sex?
- (5) Psychiatric problems?
- (6) Domestic troubles?
- (7) Fear of compromise or punishment?

i. A person who commits suicide by drowning usually removes his coat and hat, and leaves

his wallet (purses or handbag) with his coat and hat.

j. A person usually jumps feet first to his death.

23. Identification of Deceased. Do not place complete reliance on a visual identification of the victim. Fingerprints are the most positive means of identification. When fingerprints cannot be obtained, the next best means may be dental charts or records of injuries or operations, such as broken bones, surgical repairs, or removal of parts of the body. The following means may be used to identify the victim:

a. Fingerprints.

b. Teeth, bones, and physical characteristics. Medical records may aid in the identification of the victim.

c. Clothing. Clothing may require laboratory examination and extensive tracing of chronological possession. Of particular importance are the size, type, and condition of the clothing; laundry and drycleaning marks; and foreign substances adhering to the clothing.

d. Identifying tags and documents. Metal tags, identification cards, and other documents may help to provide identification. If a document appears to have been tampered with or if it has been mutilated or burned, it should be sent to a laboratory for examination or restoration.

e. Metal articles. Although metal articles, such as pocket knives, watches, rings, cigarette lighters, and belt buckles, may be separated from the victim or mixed with similar objects from other victims, they are seldom consumed by fire or destroyed by an explosion. Unless the exact locations where these articles were found are recorded, their value for identification purposes is reduced.

24. Motive and Opportunity. c. In instances in which the perpetrator of a homicide is unknown or a suspected or accused person denies being involved in the incident, it is of prime importance to establish a motive and the identity of persons who had an opportunity to commit the offense. These two factors are of equal value. The selection of which one to consider first depends on the circumstances of each incident under investigation.

(1) If it is determined that a person had an apparent motive, determine if he had the opportunity to commit the offense.

(2) Conversely, if a person appears to have had an opportunity to commit the offense, determine if he had a motive.

b. The facts surrounding motive and opportunity are usually developed through questioning.

(1) Question witnesses concerning what they observed. Particular attention should be given to unusual incidents that may be indicative of a motive.

(2) Question acquaintances and relatives of the victim to develop the identity of each person who may have had a motive or opportunity.

(3) Question associates of the suspect(s) to determine their knowledge of his relationship with the victim.

(4) Question the suspect(s) concerning his relationship with the victim and his whereabouts and activities during, before, and after, the incident.

c. Surveillance or undercover investigation may be appropriate or required to develop leads that may tend to establish motive.

d. Alibis having a bearing on opportunity should be investigated for corroborative support.

25. Autopsy. It is the responsibility of the medical officer, usually a specialist in pathology, to determine the cause of death. The investigator cooperates fully with the pathologist. Generally autopsies on persons subject to the UCMJ are performed by military pathologists and autopsies on persons not subject to the UCMJ are performed by civilian pathologists on request or order of civil authorities. There may be variations in procedures in overseas areas over which commanders have authority. Discuss with the pathologist all known facts and any special considerations or information needed. The investigator should be present at the autopsy to answer questions and to receive evidence or specimens recovered from the victim. If the pathological findings are not understood or if they seem to be inconsistent with

known facts, discuss them further with the pathologist before the body is released from medical control.

26. **Estimation of Time of Death.** Depending upon the circumstances, the medical officer, especially a pathologist, can often provide an opinion concerning the time of death. It is desirable for the medical officer, or pathologist, to participate in the investigation at the scene in order to note the condition of the body, the postmortem changes, environmental conditions,

and circumstances of death. When certain control factors, such as climatic conditions and time of exposure to the elements, are known, the medical officer may give a broad estimate of the lapse of time since death which is based on rigor mortis, loss of body temperature, and the state of putrefaction of the remains. The changes in brain, rectal, and liver temperature have been used to estimate time of death, but none of these methods are reliable in every case. An examination of the stomach contents may also be of value.

APPENDIX I

REFERENCES

1. Military

- AR 190-8 Military Police: Off-Post Police Activities
AR 190-22 Military Police: Seizure and Disposition of Property
AR 190-46 Military Police: Records and Forms
AR 195-10 Criminal Investigation: Military Police Criminal Investigative Activities
AR 195-11 Accreditation of Military Police Criminal Investigators
TM 8-300 Autopsy Manual
TM 10-286 Identification of Deceased Personnel
TB PMG 15 Techniques of Interviewing and Interrogating
TB PMG 22 Polygraph Examination
TF 19-2442 Suspects and Witnesses: Part I—Basic Interviews
TF 19-2443 Suspects and Witnesses: Part II—Complaints and Hostile Witnesses
TF 19-2444 Suspects and Witnesses: Part III—Interrogating Suspects
TF 19-2966 Evidence: Part I—Preservation and Collection
TF 19-2967 Evidence: Part II—Handling, Evaluating, and Identifying
GP 19-49 Military Police Observation and Description
Manual for Courts-Martial, United States, 1951.

2. Others

- Adam, John, and Adam, J. Collyer, *Criminal Investigation*, Sweet and Maxwell, Ltd., London, 1949
Clift, Raymond E., *A Guide to Modern Police Thinking*, The W. H. Anderson Co., Cincinnati, C1956
Cuthbert, C. R. M., *Science and the Detection of Crime*, Philosophical Library, New York, 1958
Eiseman, James S., *Elements of Investigative Techniques*, McKnight and McKnight Publishing Co., Bloomington, Ill., C1949
Eise, Walter Martyn, *The Detection of Crime*, The Police Journal, London, 1935
Faix, P. A., (Editor), *The Medico-Legal Autopsy Laws of the Fifty States and the District of Columbia*, Armed Forces Institute of Pathology, Washington, D.C., 1965
Feifel, Herman Ed., *The Meaning of Death*, McGraw-Hill Book Company, Inc., New York, 1959
Gonzales, T. A., Vanca, M., Helpern, M., and Umberger, C. J.: *Legal Medicine, Pathology and Toxicology*, 2d edition, Appleton-Century-Crofts, Inc., New York 1954
Gradwohl, R. B. H. (Editor), *Legal Medicine*, The C. V. Mosby Company, St. Louis, Mo., 1964
Kirk, Paul L., *Crime Investigation*, Intarscience Publishers, Inc., New York, C1963
Snyder, LeMoynes, *Homicide Investigation*, Charles C. Thomas, Publisher, Springfield, Ill., 1959
Soderman, Harry and O'Connell, John J., *Modern Criminal Investigation*, Funk & Wagnalls Co., New York, 1945
Svensson, Arne and Wendall, Otto, *Techniques of Crime Scene Investigation*, American Elsevier Publishing Co., Inc., New York, 1966

APPENDIX II
HOMICIDE INVESTIGATION

The following are suggestions for the conduct of homicide investigations:

1. Direct person notifying you of the incident that first aid should be rendered to the victim, if appropriate, but that nothing is to be disturbed at or removed from the scene prior to your arrival.
2. Arrange for dispatch to the scene of a medical officer and a photographer.
3. Proceed to the scene.
4. Obtain name, rank, Army service number, security clearance, and organization of the deceased.
5. Who discovered the body—what other persons were present at the scene of the crime—who can identify the body of the deceased? Record names and addresses for future reference.
6. Question available witnesses.
7. Ascertain the date and exact time of the discovery of the crime.
8. Was the deceased alive when first found? Did he make any statements or accusations?
9. Describe the exact location of the body when found—was the body moved before the investigator arrived and, if so, by whom, why, and what change was made in the body's position?
10. Describe the position and appearance of the body.
11. Photograph the body as found, if possible, and photograph surrounding area, where necessary.
12. Record the condition of the weather, the visibility, the direction and force of the wind, and the illumination afforded the scene by the sun, moon, street lamps, or other sources of light.
13. Arrange, if possible, to have a medical officer or physician make a brief preliminary examination of the body before it is moved. Record his name.
14. With the assistance of the surgeon obtain a complete autopsy report which should show as a minimum the following:
 - a. List of all apparent injuries, dirt, blood, powder burns, or other marks on the body.
 - b. Complete physical description of the body.
 - c. Medical opinion as to time of death.
 - d. Exact cause of death.
15. When body is removed, mark position. Search area underneath and around body.
16. Arrange to obtain victim's clothing and make a careful search of it. Describe in notes. Preserve and identify for use as evidence.
17. Conduct a thorough search of the crime scene.
18. Search any suspects and their residence, when necessary.
19. Prepare necessary photographs, sketches, and notes.
20. Describe the crime scene in detail.
21. Collect all available evidence, taking precautions to identify and preserve it.
22. Submit any bullets, shells, weapons, hairs, bloodstains, fingernail scrapings, empty bottles,

suspicious chemicals, fingerprints, footprints, and documents to a criminal laboratory for analysis.

23. Search scene and victim's effects for diaries, journals, letters, addresses, telephone numbers, or other documents which may reveal information about the crime. Search barracks area, wall locker, footlocker, luggage desks, automobile, boat, home, garage, safe deposit box, and other similar areas or places.

Note. Any search of family quarters or other jointly held property should be requested in a very cautious and tactful manner. Normally this would be a permissive-type search authorized by the next-of-kin, unless adequate grounds exist to obtain a search warrant.

24. Record the location, color, shape, size, and density of any blood spots found; collect, preserve, and identify them.
25. Record the location, appearance, condition, and ownership of each article of clothing found at the crime scene.
26. What is the general appearance of the exterior and interior of the scene of the crime? In what condition are the furniture, rugs, window curtains, and articles on tables? Are there any injuries, marks, scars, stains, or other soiling of furniture, carpets, curtains, and window sills? Were telephone wires cut? Did a search of the crime scene uncover strands of hair, cloth, buttons, and cigarette butts? Were these traces left by the victim, by the murderer, or by someone else?
27. Do the premises contain any clues as to the motive, identity, means of entry, or methods of the culprit?
28. How did the murderer escape?
29. Does a reconstruction and search of the route of the murderer reveal footprints, damaged vegetation, articles dropped while fleeing, or traces along the road?
30. What are the names, descriptions, addresses, peculiarities and habits of associates of the probable murderer? Where may the murderer be found? What is the description of the vehicle he used? Was he wounded or otherwise injured? What were his probable means and direction of escape and place of rendezvous? Has a general alarm been turned in for his apprehension?
31. Was robbery, revenge, anger, jealousy, profit, sadism, sex motives, insanity, or self-defense a possible motive for the crime?
32. Was the crime preceded by a quarrel or assault? Who participated? Where were they at the time of the homicide?
33. What were the character, background, habits, and haunts of the deceased, the suspects, and of their associates?
34. Were any unguarded statements made by the witnesses and bystanders?
35. Were the suspects armed shortly before the crime? Were they seen at or near the scene of the crime under suspicious circumstances at the time of its occurrence?
36. What were the movements of suspects during the days preceding the crime and on the day of the crime?
37. What were the suspects' actions and demeanor subsequent to the crime? Did they take flight or go into hiding? Did they make any false statements?
38. What persons frequently visit the suspects at their homes and their places of employment?
39. What are suspects' channels of communication and what information passes through them?
40. What movements are made by suspects' associates, sweethearts, and family?
41. From whom do they receive mail?
42. Were weapons, ammunition, empty shells, stains, or other incriminating facts disclosed by a search of the suspect's residence? From whom, by whom, and when were the weapons secured?
43. What was the location and condition of all weapons or incriminating evidence found in the suspect's residence or office?

44. If the suspect has been apprehended, did a search of the clothing and fingernails reveal any blood or particles which would connect him with the scene of the crime?
45. Secure evidence of all statements by accused both before and after crime.
46. Check all statements for truth.
47. Obtain dying declaration of victim, if possible. List persons present, and record time declaration was made.
48. Interview all close associates and barracks-mates of deceased for possible leads.
49. Consider security aspects of the case from the moment the investigation commences. What was the security clearance of the victim? Did he have access to classified information? Affirmative answers to these questions require immediate investigative attention to others. Was any classified information found in the vicinity of the body? Is any classified information missing from his unit? What ideas or opinions had the victim expressed contrary or derogatory to the national interest? Were his associates in any way security risks? Did the victim or associates display any unexplainable signs of financial affluence? All security aspects must be resolved.

APPENDIX III

SUICIDE INVESTIGATION

The investigation of suicide is similar to the investigation of homicide and the suggestions contained in appendix II should be utilized. The following suggestions are additionally appropriate in the investigation of suicide:

1. Determine the motive. Possible motives may include—
 - a. Financial difficulties.
 - b. Failing health.
 - c. Psychiatric problems.
 - d. Unwise or indiscreet emotional involvement with the opposite sex.
 - e. Domestic troubles.
 - f. Homosexual activity.
 - g. General depression—caused by family problems, ill health, pain, divorce, or other serious problems.
 - h. Revenge.
 - i. Escape from an intolerable situation.
 - j. Loss of love, self-esteem, purpose, position, and usefulness.
 - k. Alcoholism or narcotics addiction.
 - l. Fear of compromise and/or punishment.
2. Consider security aspects of the case. Investigative determination of motive is essential in resolving the security implications. The victim's rank, position, security clearance, and access to classified information must be carefully evaluated in determination of the motive. Criminal investigative liaison with intelligence agency personnel is essential in obtaining their assistance in developing security leads. If the victim had access to classified material, the investigator should request that intelligence agency personnel arrange for an immediate inventory of classified material available to the victim.
3. If the victim had custody of funds or property, arrangements should be made for an immediate audit or inventory of such funds or property.